

App. No. 10/522,887

Office Action Dated January 26, 2009

Amendments to the Specification:

Please replace the paragraph starting on line 1 of page 9 of the specification with the following:

Growth characteristics and in vitro oxidative stress tolerance of transgenic lines were evaluated. The transgenic lines Godawari 8 and Salween 2 showed higher levels of SOD activity and SOD protein when compared to controls as indicated in FIG. 1a and the table below.

	SOD Activity (Units/mg-protein)							
	Means			Standard Deviation			% Increase	
Paraquat Conc. (μM)	TP309	Salween-2	Godawari-8	TP-309	Salween-2	Godawari-8	Godawari-8	Salween-2
0-μM	0.5365	0.8	1.05	0.095	0.055	0.0485	95.71	49.11
5-μM	0.6808	0.8229	0.934	0.016	0.053	0.0205	37.19	20.87
50-μM	0.6884	0.7069	0.904	0.037	0.256	0.0114	31.32	2.69
200-μM	0.9545	0.6849	1.05	0.044	0.046	0.042	10.01	-28.25
500-μM	0.883	0.6478	1.706	0.117	0.093	0.101	93.20	-26.64
1000-μM	0.839	0.6756	1.345	0.041	0.027	0.045	60.31	-19.48

As shown in Fig. 1a, the above table, the transgenic variety produced 30-95% increase in SOD activity as compared to controls the transgenic plants showed increased MnSOD activity as compared to non-transgenic plants in the presence of increased methylviologen concentration. In addition, catalase levels were upregulated in the transgenic lines Godawari 8 that had higher level of SOD activity (FIG. 1b). Conductance measurement reflective of oxygen radical scavenging abilities shows greater protection in case of transgenic Godawari and Salween, representing chloroplast environment shows healthier chloroplast in case of the transgenic Godawari 8 even under Methylviologen (Paraquat) treatment, when compared with control plants (FIG. 1c). The presence of transgenic MnSOD activities had enhanced tolerance to Methylviologen and had increased growth rates.